(b) In this subchapter, the word: (1) ''Shall'' is used in an imperative sense;

(2) ''Must'' is used in an imperative sense;

(3) ''Should'' is used in a recommendatory sense;

(4) ''May'' is used in a permissive sense to state authority or permission to do the act described, and the words ''no person may * * *'' or ''a person may not * * *'' means that no person is required, authorized, or permitted to do the act described; and

(5) ''Includes'' is used as a word of inclusion not limitation.

[Amdt. 171–32, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 171–32A, 41 FR 40630, Sept. 20, 1976; Amdt. 171–121, 58 FR 51528, Oct. 1, 1993; 75 FR 60338, Sept. 30, 2010]

§ 171.10 Units of measure.

(a) *General.* To ensure compatibility with international transportation standards, most units of measure in this subchapter are expressed using the International System of Units (''SI'' or metric). Where SI units appear, they are the regulatory standard. U.S. standard or customary units, which appear in parentheses following the SI units, are for information only and are not intended to be the regulatory standard.

(b) Abbreviations for SI units of measure generally used throughout this subchapter are as shown in paragraph (c) of this section. Customary units shown throughout this subchapter are generally not abbreviated.

(c) *Conversion values.* (1) Conversion values are provided in the following table and are based on values provided in ASTM E 380, ''Standard for Metric Practice''.

(2) If an exact conversion is needed, the following conversion table should be used.

TABLE OF CONVERSION FACTORS FOR SI UNITS

Measurement	SI to U.S. standard	U.S. standard to SI
Activity	1 TBq=27 Ci	1 Ci=0.037 TBq
Length	1 cm=0.3937008 in	1 in=2.540000 cm
	1 m=3.280840 ft	1 ft=0.3048000 m
Thickness	1 mm=0.03937008 in	1 in=25.40000 mm
Mass (weight)	1 kg=2.204622 lb	1 lb=0.4535924 kg
	1 g=0.03527397 oz	1 oz=28.34952 g
Pressure	1 kPa=0.1450377 psi	1 psi=6.894757 kPa
	1 Bar=100 kPa=14.504 psi	1 psi=0.06895 Bar
	1 kPa=7.5 mm Hg	
Radiation level	1 Sv/hr=100 rem/hr	1 rem/hr=0.01 Sv/hr
Volume (liquid)	1 L=0.2641720 gal	1 gal=3.785412 L
	1 mL=0.03381402 oz	1 oz=29.57353 mL
	1 m^3=35.31466 ft^3	1 ft^3=0.02831685 m^3
Density	1 kg/m^3=0.06242797 lb/ft^3	1 lb/ft^3=16.01846 kg/m^3
Force	1 Newton = 0.2248 Pound-force	1 Pound-force=4.483 N

Abbreviation for units of measure are as follows:
Unit of measure and abbreviation:
(SI): millimeter, mm; centimeter, cm; meter, m; gram, g; kilogram, kg; kiloPascal, kPa; liter, L; milliliter, mL; cubic meter, m^3; Terabecquerel, TBq; Gigabecquerel, GBq; millisievert, mSv; Newton, N;
(U.S.): Inch, in; foot, ft; ounce, oz; pound, lb; psig, psi; gallon, gal; cubic feet, ft^3; Curie, Ci; millicurie, mCi; millirem, mrem.

[Amdt. 171–111, 56 FR 66159, Dec. 20, 1991, as amended by Amdt. 171–136, 60 FR 49108, Sept. 21, 1995; Amdt. 171–135, 60 FR 50302, Sept. 28, 1995; 66 FR 33335, June 21, 2001; 66 FR 45378, Aug. 28, 2001; 68 FR 75740, Dec. 31, 2003]

§ 171.11 [Reserved]

§ 171.12 North American Shipments.

(a) *Requirements for the use of the Transport Canada TDG Regulations.* (1) A hazardous material transported from Canada to the United States, from the United States to Canada, or transiting the United States to Canada or a foreign destination may be offered for transportation or transported by motor carrier and rail in accordance with the Transport Canada TDG Regulations (IBR, see §171.7) as authorized in §171.22, provided the requirements in §§171.22 and 171.23, as applicable, and this section are met. In addition, a cargo tank motor vehicle, portable tank or rail tank car authorized by the Transport Canada TDG Regulations